

Commonwealth of Kentucky
Division for Air Quality
STATEMENT OF BASIS / SUMMARY

Conditional Major/Operating
Permit: F-20-029
Link-Belt Cranes, L.P., LLLP
2651 Palumbo Drive
Lexington, KY 40509
December 11, 2020
Ibrahim AL-Burai, Reviewer
SOURCE ID: 21-067-00017
AGENCY INTEREST: 4929
ACTIVITY: APE20200001

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Permit: F-20-029

SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3531, Construction Machinery Manufacturing

Single Source Det. ☐ Yes ☒ No If Yes, Affiliated Source AI:Source-wide Limit ☒ Yes ☐ No If Yes, See Section 4, Table A28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Fayette

Nonattainment Area ☒ N/A ☐ PM₁₀ ☐ PM_{2.5} ☐ CO ☐ NO_x ☐ SO₂ ☐ Ozone ☐ Lead

If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No

If yes, for what pollutant(s)?

☒ PM₁₀ ☒ PM_{2.5} ☐ CO ☐ NO_x ☐ SO₂ ☒ VOCPTE* greater than 250 tpy for any criteria air pollutant ☒ Yes ☐ No

If yes, for what pollutant(s)?

☐ PM₁₀ ☐ PM_{2.5} ☐ CO ☐ NO_x ☐ SO₂ ☒ VOCPTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No

If yes, list which pollutant(s):

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:

Link-Belt is a construction equipment manufacturing facility. This facility primarily engaged in painting, welding, and blasting.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-20-029

Activities: APE20200001

Received: June 10, 2020

Application Complete Date(s): July 20, 2020

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative
Construction/Modification Requested? ☐ Yes ☒ No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action ☒ Yes ☐ No

- APE20200002: Installing a new cloos robot and welding machine in Bay 4.
- APE20190001: Update Emission Factors and PTE calculations.
- APE20180001: Addition of a new coating material.

Description of Action:

Renewal permit with no requested construction. Facility requested:

- Source-wide limitations on total and individual HAPs be removed.
- Change in the VOC emission factor for the clean-up solvent (EU16).

F-20-029 Emission Summary				
Pollutant	2020 Actual (tpy)	Previous PTE F-15-029 R2 (tpy)	Change (tpy)	Revised PTE F-20-029 (tpy)
CO	0.00035	14.76	1.235	15.995
NO _x	0.412	23.78	- 3.368	20.412
PT	0.136	220.79	- 171.413	49.377
PM ₁₀	0.136	220.79	- 139.335	49.379
PM _{2.5}	0.106	173.917	- 139.335	34.582
SO ₂	0.000004	0.116	- 0.113	0.229
VOC	8.347	958.71	33.589	992.299
Lead	0	0	0	0.000
Greenhouse Gases (GHGs)				
Carbon Dioxide	0.494	8784.419	13438.443	22222.862
Methane	0.000008	0.401	0.022	0.423
Nitrous Oxide	0.2238	2.283	- 1.872	0.411
CO ₂ Equivalent (CO ₂ e)	67.1867	9474.896	12880.945	22355.841
Hazardous Air Pollutants (HAPs)				
Total HAPs:	0.1538	42.932	- 33.226	9.706
Chromium	0.00	0.008	1.872	1.880
Cobalt, Total	0.0022	0.255	- 0.225	0.000
Ethyl Benzene	0.0143	2.375	- 2.375	0.000
Formaldehyde	0.0003	0.000	0.000	0.000
Manganese, Total	0.00	0.815	1.692	2.507
Methyl Isobutyl Ketone	0.024	6.442	- 3.631	2.811
Naphthalene	0.066	5.393	- 5.393	0.000

Nickel (and Compounds)	0.00	0.045	2.462	2.507
Toluene	0.00	0.147	- 0.147	0.000
Xylenes (Total)	0.047	27.452	- 27.451	0.001

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit #05, 06, 07A, 014, 015, 016, 27A and 28A: Surface Coating Operations				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC	90 tpy of VOC emissions	To Preclude 401 KAR 52:020	Material Balance & SDS	Recordkeeping, 12 month rolling total
PM/PM ₁₀	Source wide 90 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS with 60% Transfer Efficiency	Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & MSDS with 60% Transfer Efficiency	Two stage filter system, 99% CE
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Visual Observation
<p>Initial Construction and/or Modification Date: See below</p> <p>Process Description:</p> <p>EP 05 Prime Coat Paint Booth (Light Parts Hang Line). Application of primer to miscellaneous metal parts used in crane assembly utilizing one electrostatic air spray gun. Estimated transfer efficiency 60% Date of Commenced: August 1999</p> <p>EP 06 Top Coat Paint Booth (Light Parts Hang Line) Application of primer and final coats to miscellaneous metal parts used in crane assembly utilizing one electrostatic air spray gun. Estimated transfer efficiency 60% Date of Commenced: August 1999</p> <p>EP 07A Heavy Part Hang Line Paint Booth Application of primer and final coats to miscellaneous metal parts used in crane assembly utilizing two electrostatic air spray guns. Estimated transfer efficiency 60% Date of Commenced: August 1997</p> <p>EP 014 South Paint Booth (Final Paint Line) Application of primer and final coats to miscellaneous metal parts used in crane assembly utilizing two electrostatic air spray guns Estimated transfer efficiency 60% Date of Commenced: August 1999</p> <p>EP 015 Touch Up Paint Booth (Final Paint Line) Application of primer and final coats to miscellaneous metal parts used in crane assembly utilizing</p>				

Emission Unit #05, 06, 07A, 014, 015, 016, 27A and 28A: Surface Coating Operations

one electrostatic air spray gun
Estimated transfer efficiency 60%
Date of Commenced: March 1991

EP 016 Clean-Up Solvent
Date of Commenced: March 1990

EP 27A Prime Coat Paint Booth (Boom Line)
Application of primer to miscellaneous metal parts used in crane assembly utilizing two electrostatic air spray guns.
Estimated transfer efficiency 60%
Date of Commenced: June, 2007

EP 28A Top Coat Paint Booth (Boom Line)
Application of primer and final coats to miscellaneous metal parts used in crane assembly utilizing two electrostatic air spray guns.
Estimated transfer efficiency 60%
Date of Commenced: June, 2007

Applicable Regulation:

401 KAR 59:010, This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

401 KAR 63:021, Pursuant to 401 KAR 63:021, a source in existence on the effective date of this administrative regulation which was issued a permit pursuant to 401 KAR 50:035 with conditions based on this administrative regulation shall continue to comply with all conditions based on this administrative regulation.

Comments:

Emission units 23, 24, 25, 07B, 20, 014A, 014B and 014C have been removed to Section C, Because they have no applicable regulation.

Emission Unit #001(#2) Indirect Heat Exchanger (Boiler)

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	0.53 lb/MMBtu	401 KAR 59:015, Section 4(1)(c)	AP-42 Chapter 1.4.	Assumed based upon natural gas combustion
Opacity	20% opacity	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO ₂	2.73 lbs/MMBtu	401 KAR 59:015, Section 5(1)	AP-42 Chapter 1.4.	Assumed based upon natural gas combustion

Emission Unit #001(#2) Indirect Heat Exchanger (Boiler)

Initial Construction and/or Modification Date: 10/2006

Process Description:

Manufacturer: Sellers Engineering
Rated capacity: 10.461MMBtu/hr.
Model Number S-250 W
Fuel: Natural Gas
Serial Number: 103900

Applicable Regulation:

401 KAR 59:015, New Indirect Heat Exchangers, applicable to indirect heat exchangers having a heat input capacity greater than one (1) million BTU per hour (MMBtu/hr) commenced on or after April 9, 1972 (401 KAR 59:015, Section 2(1)).

401 KAR 60:005, Section 2(2)(d) 40 C.F.R. 60.40c to 60.48c (Subpart Dc), Standards of Performance for Small Industrial Commercial-Institutional Steam Generating Units is applicable to units with a heat input capacity of 10.0 MMBtu/hr or greater but less than 100 MMBtu/hr and commenced on or after June 9, 1989.

Comments:

Emission Unit #001(#1) has been removed.

Emission Unit #002, 017, 019, 034, 027and 029: Welding machines and Shot Blast

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM/PM ₁₀	Source wide 90 tpy	To preclude 401 KAR 52:020	MSDS	Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	AP-42 5th edition	Cartridge Filter, 95%-99.97% C.E.,
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Visual Observation
Chromium, Cobalt, Manganese, Nickel.	20% opacity	40 CFR 63.11516(f)(6).	N/A	Graduated schedule of visual observations from Subpart XXXXXX

Initial Construction and/or Modification Date: See below

Process Description:

EP 002 (Bay 1 –Bay 5) 106 welding machines

Emission Unit #002, 017, 019, 034, 027and 029: Welding machines and Shot Blast

Rated capacity: 606.625 lbs/hr

Cartridge Filter with an estimated 90% capture and 95% control and vents inside the building.

Date of Commenced: July 1969 and September 2020

EP 017 40 Welding machines, (Lattice Bay welding operations)

Rated capacity: 221 lbs/hr

Cartridge Filter with an estimated 90% capture and 95% control and vents inside the building.

Date of Commenced: July 1969

EP 019 Auto Blast (totally enclosed)

Rated capacity: 24 lbs/hr shot make up

Cartridge Filter with an estimated 100% capture and 99% control

Date Commenced: March 1991

EP 034 Shot Blast unit (totally enclosed)

Rated capacity: 60 lbs/hr shot make up,

Cartridge Filter with an estimated 100% capture and 99.97% control

Date Commenced: Dec 2016

EP 027 Shot Blast unit (totally enclosed)

Rated capacity: 52 lbs/hr shot make up,

Cartridge Filter with an estimated 100% capture and 99% control and vents inside the building.

Date Commenced: August 2007

EP 029 23 Welding machines, (Bay 10 welding operations)

Rated capacity: 120.075 lbs/hr

Cartridge Filter with an estimated 90% capture and 95% control and vents inside the building.

Date Commenced: May 2007

Applicable Regulation:

401 KAR 59:010, New process operations.

401 KAR 63:002, Section 2(4)(vvvvv), 40 C.F.R. 63.11514 to 63.11523, Tables 1 to 2 (Subpart XXXXXX), *National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories*. The SIC code for Link Belt is included in the list of source categories subject to this regulation.

Comments:

N/A

Emission Unit #30 Gasoline Dispensing Operation

Initial Construction Date: 1/1995

Process Description:

SCC Units: 1000 gallon of stored gasoline.

Hourly Operating Rate (SCC Units/hr): 0.0011 (1000gal/hr)

Applicable Regulations:

401 KAR 63:002, Section (2)(4)(ddddd) 40 C.F.R. 63.11110 to 63.11132, Tables 1 to 3 (Subpart CCCCCC), National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

Comments:

Vapor balance test is not required for monthly throughput less than 10,000 gallons.

Emission Unit 31 (EG1), 60 KW Emergency Generator

Initial Construction Date: 10/2009

Process Description:

Maximum Continuous Rating: 80.46 HP

Primary Fuel: Natural Gas

Manufactured November 11, 2008

Applicable Regulation:

401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 to 63.6675, Tables 1a to 8, and Appendix A (Subpart ZZZZ), *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

Note: D.C. Circuit Court [*Delaware v. EPA*, 785 F. 3d 1 (D.C. Cir. 2015)] has vacated the provisions in 40 CFR 63, Subpart ZZZZ that contain the 100-hour exemption for operation of emergency engines for purposes of emergency demand response under 40 CFR 63.6640(f)(2)(ii)-(iii). The D.C. Circuit Court issued the mandate for the vacatur on May 4, 2016.

Comments:

Rated Capacity: 60 kW

Emission Unit 32 (FP1), 179 KW Fire Pump

Initial Construction Date: 4/1999

Process Description:

Cummins Model 6CTA F1

Maximum Continuous Rating: 240 HP

Primary Fuel: Diesel

Emission Unit 32 (FP1), 179 KW Fire Pump

Applicable Regulation:

401 KAR 63:002, Section 2(4)(eeee) 40 C.F.R. 63.6580 to 63.6675, Tables 1a to 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Note: D.C. Circuit Court [*Delaware v. EPA*, 785 F. 3d 1 (D.C. Cir. 2015)] has vacated the provisions in 40 CFR 63, Subpart ZZZZ that contain the 100-hour exemption for operation of emergency engines for purposes of emergency demand response under 40 CFR 63.6640(f)(2)(ii)-(iii). The D.C. Circuit Court issued the mandate for the vacatur on May 4, 2016.

Comments:

Rated Capacity: 179 kW

EP 33, Parts Washer Boiler

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	0.44 lb/MMBtu	401 KAR 59:015, Section 4(1)(a)	AP-42 Chapter 1.4.	Assumed based upon natural gas combustion
Opacity	20% opacity	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO ₂	2.02 lbs/MMBtu	401 KAR 59:015, Section 5(1)	AP-42 Chapter 1.4.	Assumed based upon natural gas combustion

Initial Construction and/or Modification Date : 10/2017

Process Description:

Model: 300 W Rite Engineering
Rated Capacity: 2.95 MMBtu/hr
Fuel: Natural Gas

Applicable Regulation:

401 KAR 59:015, New Indirect Heat Exchangers, applicable to indirect heat exchangers having a heat input capacity greater than one (1) million BTU per hour (MMBtu/hr) commenced on or after April 9, 1972 (401 KAR 59:015, Section 2(1)).

Comments:

Allowable emissions of 401 KAR 59:015 are calculated using the total rated heat input capacity of 26.011 MMBtu/hr.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
NA										

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tpy of VOC emissions	To Preclude 401 KAR 52:020	Source-wide
90 tpy of PM/PM ₁₀	To Preclude 401 KAR 52:020	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, New process operations.	EU 002. 05, 06, 07A, 14, 15, 16, 17, 19, 27,27A, 28A, 29 &34
401 KAR 63:021, Existing sources emitting toxic air pollutants	EU 05, 06, 07A, 014,015,016, 27A& 28A
401 KAR 59:015, New Indirect Heat Exchangers	EU 001 #2 &33
<i>401 KAR 60:005 Section 2(2)(d) 40 C.F.R. 60.40c to 60.48c (Subpart Dc) Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.</i>	EU 001 #2
401 KAR 63:002, Section 2(4)(vvvvv), 40 C.F.R. 63.11514 to 63.11523, Tables 1 to 2 (Subpart XXXXXX), <i>National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories.</i>	EU 002,017, 019,034,027 & 029
401 KAR 63:002, Section (2)(4)(ddddd) 40 C.F.R. 63.11110 to 63.11132, Tables 1 to 3 (Subpart CCCCCC), National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities	EU 30
401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 to 63.6675, Tables 1a to 8, and Appendix A (Subpart ZZZZ), <i>National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines</i>	EU 31 & 32

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 52:020, <i>Title V Permits</i> .	Source-wide

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
NA	

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*

The Division for Air Quality (Division) has performed SCREEN View on July 30, 2020 of potentially hazardous matter or toxic substances (Methyl Isobutyl Ketone, Naphthalene, Xylene) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:021.

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
F-03- 016	Renewal	APE20040001	6/13/2003	5/27/2005	Renewal	N/A
F-03- 016 R1	Minor	APE20070001	2/12/2007	2/23/2007	Construction and removal of emission units.	N/A
F-03- 016 R2	Minor	APE20070002	5/1/2007	5/4/2007	Installation of two spray booths (EP # 27A and EP 28A).	N/A
F-03- 016 R3	Minor	APE20090001	3/2/2009	4/13/2009	Installation of three spray booths and two Air make Up Units (EP # 29A, 29B, 30, 31A and 31B).	N/A
F-10-004	Renewal	APE20090002	1/27/2010	10/12/10	Renewal	N/A
F-10-004 R1	Minor	APE20100001	1/27/2011	3/23/2011	Adding EP029	N/A
F-10-004 R2	Minor	APE20110001	9/29/2011	12/21/11	Adding EP 30, EP 31 and Touch-up operations	N/A
F-10-004 R3	Minor	APE20120001	3/18/2012	6/6/2012	Corrected requirements for EP 31. Added EP 32. Added requirements for 40 CFR 63, XXXXXX.	N/A
F-15-029	Renewal	APE20150002	8/21/2015	12/7/2015	Renewal	N/A
F-15-029 R1	CM-Admin Amend	APE20160001	10/27/2016	11/7/2016	Installing Insignificant Activities	N/A
F-15-029 R2	CM-Mnr-Revision	APE20170002	9/15/2017	11/12/2017	Installing a boiler and name change	

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS	– Ambient Air Quality Standards
BACT	– Best Available Control Technology
Btu	– British thermal unit
CAM	– Compliance Assurance Monitoring
CO	– Carbon Monoxide
Division	– Kentucky Division for Air Quality
ESP	– Electrostatic Precipitator
GHG	– Greenhouse Gas
HAP	– Hazardous Air Pollutant
HF	– Hydrogen Fluoride (Gaseous)
MSDS	– Material Safety Data Sheets
mmHg	– Millimeter of mercury column height
NAAQS	– National Ambient Air Quality Standards
NESHAP	– National Emissions Standards for Hazardous Air Pollutants
NO _x	– Nitrogen Oxides
NSR	– New Source Review
PM	– Particulate Matter
PM ₁₀	– Particulate Matter equal to or smaller than 10 micrometers
PM _{2.5}	– Particulate Matter equal to or smaller than 2.5 micrometers
PSD	– Prevention of Significant Deterioration
PTE	– Potential to Emit
SO ₂	– Sulfur Dioxide
TF	– Total Fluoride (Particulate & Gaseous)
VOC	– Volatile Organic Compounds